

CSE 160 Section 5 Solutions

Exercise 1

```
def get_squares(nums):
    squares = {}
    for number in nums:
        squares[number] = number ** 2
    return squares
```

Exercise 2

```
def coldest_city(data):
    low_temp = None
    city_return = ''
    for dictionary in data:
        city = dictionary ['city']
        city_low = dictionary ['lowest_temp']
        if (low_temp == None) or (city_low < low_temp):
            low_temp = city_low
            city_return = city
    return city_return
```

Exercise 3

Part 1

```
def get_num_types(pokemon_types):
    num_types = {}
    for pokemon in pokemon_types:
        my_type = pokemon_types[pokemon]
        if my_type in num_types:
            num_types[my_type] += 1
        else:
            num_types[my_type] = 1
    return num_types
```

Part 2

```
def get_types(pokemon_types):
    num_types = {}
    for pokemon in pokemon_types:
        my_type = pokemon_types[pokemon]
        if my_type not in num_types:
            num_types[my_type] = []
        num_types[my_type].append(pokemon)
    return num_types
```

Exercise 4

```
# Initialising list of dictionary
ini_dict = [{'a':5, 'b':10, 'c':90},
            {'a':45, 'b':78},
            {'a':90, 'c':10}]

# printing initial dictionary
print("initial dictionary", str(ini_dict))

# sum the values with same keys
result = {}
for d in ini_dict:
    for k in d.keys():
        result[k] = result.get(k, 0) + d[k]
print("resultant dictionary : ", str(result))
```

Exercise 5

```
def freq(input_string):
    result = {}
    for character in input_string:
        if character not in result:
            result[character] = 0
        result[character] = result[character] + 1
    return result
```

Exercise 6

```
def word_lengths(input_string):
    # Assumes input_string contains at least one letter.
    words = input_string.split(' ')
    len_dict = {}
    for word in words:
        word_len = len(word)
        if word_len in len_dict.keys():
            len_dict[word_len].add(word)
        else:
            len_dict[word_len] = set([word])
    return len_dict
```